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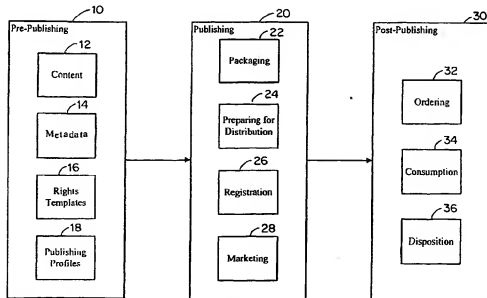
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[Continued on next page]

(54) Title: METHOD AND SYSTEM FOR AUTOMATICALLY PUBLISHING CONTENT



(57) Abstract: The publishing system and method automates at least some portion of a publishing process. The system publishes content (12) using metadata (14), rights templates (16) and/or specifications, publishing profiles (18) and business rules.

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METHOD AND SYSTEM FOR AUTOMATICALLY

PUBLISHING CONTENT

BACKGROUND OF THE INVENTION

Field of The Invention

[0001] The present invention relates to a method and system for publishing content and, more particularly, to a method and system for automatically publishing content over the Internet, other communications networks or conventional delivery channels.

Background of the Invention

[0002] Rapid evolution and wide deployment has occurred for computers, and other electronic devices such as cellular phones, pagers, PDAs, and e-book readers, and these devices are interconnected through communication links including the Internet, intranets and other networks. These interconnected devices are especially conducive to publication of content electronically. The process of making content available from authors and/or publishers to distributors over the Internet, intranets and other networks is known as "electronic publishing." Many systems have been developed through which publishers and distributors can advertise, distribute and sell content. This content can include items such as documents, e-books, music, video, games and software, that are delivered electronically to consumers over networks or on tangible media such as paper documents, books, CDs, Video CDs, DVDs, floppy disks and magnetic tapes that are delivered through conventional distribution channels such as through a common carrier. In general, content includes anything that may be distributed electronically or may be distributed in a tangible media. A publishing or distribution system may provide a catalog that lists the content that is available. A user, who is a potential content consumer, may browse through the catalog, select desired content, rights to view, print or extract the content and the like, and conditions upon which the rights may be contingent such as payment, identification, time period,

or the like. After the user has completed selecting and ordering the content, the publishing or distribution system then instructs the delivery of the content to the recipient either electronically from some content repository or via a conventional distribution channel such as tangible media sent via a common carrier.

[0003] Very often, publishing of content from a publisher to its distributors and then to consumers is time consuming and cumbersome. A typical scenario is that after preparing content, the publisher manually informs its distributors that the content is ready to be distributed. The distributors manually determine whether they want to distribute the content. If a distributor wants to distribute the content, then the distributor manually contacts the publisher and the content, together with its metadata (identification and descriptive data) and a rights specification (i.e. the access or usage rights and accompanying conditions), is then manually transferred to the distributor's system. The distributor then manually brands the content with its business rules and makes the content available for consumers to select by, for example, manually listing the content in a catalog. The business rules generally include the rules and procedures used by a distributor to decide which content that the particular distributor wants to distribute. In many situations, this process of informing, transferring, branding, cataloging and displaying content is accomplished by multiple human interactions on a content-by-content basis. Not only does this process consume valuable human resources and delay the time to market the content, but this process also introduces vulnerabilities by allowing people to mishandle and misuse the content.

SUMMARY OF THE INVENTION

[0004] An embodiment of the invention provides a method and system to automate the process of publishing items of content from publishers to distributors who then make the content available to consumers. An embodiment may organize a group of publishers, a group of distributors and some intermediate facilitators. Facilitators may include content repositories and registrars. Each publisher, distributor or facilitator is provided with a unique identifier.

[0005] One embodiment relies on pre-prepared content metadata and pre-defined usage rights templates, publishing profiles and business rules to automate the publishing process. Each publisher may have usage rights templates and a set of publishing profiles. A usage rights template may define a set of usage rights that are offered to govern distribution and use of a collection of content. When a usage rights template applies to a specific content, it becomes a usage rights specification for that content. A publishing profile may describe a subgroup of distributors through which a certain type of content may be published and a subgroup of facilitators that may be used to, for example, store and register the content. Each distributor may have a set of business rules that describe how to process, filter or augment metadata and usage rights specifications supplied by a collection of publishers, repositories and registrars.

[0006] A user of the publishing system may initiate the publishing process by providing information that identifies an item of content and its metadata. The metadata may include an identifier, title, authors, publishing dates, a description and the like. The user then associates a usage rights template and a publishing profile with the content. In response to the publishing request, the system may follow the selected publishing profile to perform a sequence of actions. The system may then store the item of content to an identified content repository or media. The content may also be in a protected form such as being encrypted and the like. Repositories may include, for example, file servers, databases and the like, and media may include, for example, paper, CD, DVD, floppy disk, tape and the like. The system may then validate and register the content at the registrar, together with the associated metadata, usage rights specification and publishing profile. The system may then notify distributors of the newly available content. Upon notification, distributors may use the publisher identifier and the content identifier to automatically receive the metadata and usage rights specification of the content, automatically apply their own business rules to the metadata and usage rights specification, and automatically generate an item in their catalog which makes the content available for selection by consumers.

[0007] The invention facilitates publishing content in a networked environment. The publishing system of the invention reduces the number of human interactions that

are required among the publishers, distributors and other facilitators to publish content. One embodiment of the invention uses predefined and specified information to make content items appear automatically in a distributor's consumer interface. Interfaces for the invention may include a catalog, a Web page, or a file system interface. Such an interface enables a consumer to order, download or access the content.

[0008] In one exemplary embodiment, a publisher initiates the publishing process by providing information that identifies an item of content and its metadata and associates a rights specification and a publishing profile with the item. Metadata may contain several fields including, for example, a content identifier such as an International Standard Book Number (ISBN); a title; the creator; a publisher; the publication date, a Digital Object Identification (DOI), the Library of Congress Control Number (LCCN), a description, an image and the like. The system and method of the invention may also provide a user interface for creating, modifying and managing content metadata, rights specifications, and publishing profiles. A rights specification may include information regarding the specific rights granted to an identified content if a given set of conditions is satisfied. Examples of rights specifications include: 1) the right to "view" and "print" are granted by "ABC Publishing, Inc." on content "ISBN = 123456789," provided that a fee of \$22.95 is paid up front; 2) the right to "view," "print" and "extract" are granted by "ABCD Publishing, Inc." on content "ISBN = 123456789," provided that user is a "123 Company" employee and uses a device branded "123 Company"; and 3) the right to "view" is granted by "ABCD Publishing, Inc." on content "ISBN = 123456789" for two days. However, a rights specification can include any number of various rights, and any of their associated conditions.

[0009] In response to a publishing request, the system may follow the selected publishing profile to perform a sequence of actions. Such actions may include distributing the item of content to an identified content repository such as a file server or database or to copy the content to media such as paper, tape, CD, DVD, or floppy disk, that are used to physically transport the content. The content may also be

protected by encryption and the like. The system may then validate or register the content at a registrar's system together with its metadata, usage rights specification and publishing profile. The system may then notify the distributor of the newly available content, and upon notification, the distributors may use their business rules to determine whether they are interested in distributing the content and, if they are interested, the system may then use the publishing identifier and content identifier to obtain the metadata and rights specification of the content. A distributor may then apply their own distributor rules to the content and generate an item in their catalog which makes the content available to consumers.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] Exemplary embodiments of this invention will be described in detail, with reference to the following figures, wherein:

[0011] FIG. 1 is a block diagram illustrating three phases in the life cycle of content processed by an exemplary embodiment of the invention;

[0012] FIG. 2 is a block diagram illustrating one exemplary embodiment of a publishing system in accordance with the invention;

[0013] FIG. 3 shows a flow chart outlining an exemplary control routine for publishing content in accordance with the invention;

[0014] FIG. 4 shows an exemplary graphical user interface (GUI) for a user of an embodiment of the invention;

[0015] FIG. 5 shows a flow chart outlining an exemplary control routine for a "push" publishing process in accordance with the invention;

[0016] FIG. 6 shows a flow chart outlining an exemplary control routine for a "pull" publishing process in accordance with the invention;

[0017] FIG. 7 is a block diagram illustrating one exemplary embodiment of a distributor system in accordance with the invention;

[0018] FIG. 8 is a flow chart outlining an exemplary control routine for updating a distributor catalog in accordance with the invention;

[0019] FIG. 9 shows an exemplary GUI for a distributor system interfacing with an embodiment of the invention to update a catalog;

[0020] FIG. 10 shows another exemplary GUI for a distributor system interfacing with an embodiment of the invention to update a catalog;

[0021] FIG. 11 shows an exemplary GUI for a distributor catalog interfacing with an embodiment of the invention; and

[0022] FIG. 12 shows yet another exemplary GUI for a distributor system interfacing with an embodiment of the invention for editing a catalog.

DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS

[0023] FIG. 1 shows a block diagram that illustrates actions that may be performed during three phases of the life cycle of content using one exemplary embodiment of the invention. All of these actions may be performed on a single system, multiple systems, a distributed processing network or any other system capable of performing these actions. The system may be inter- or intra-organizational. For example, a corporation or firm may use the invention to publish documents within the firm regardless of whether the firm operates on a LAN, WAN or the like. Pre-publishing actions 10 include creating the content 12, metadata 14, rights templates 16, and publishing profiles 18. Each of these actions 12-18 may be performed by a system in accordance with one exemplary embodiment of the invention. The system creates metadata 14 and associates the metadata 14 with the content 12. The system also can create rights templates 16. The creation of the rights templates 16 may each include creation of a set of usage rights and conditions. The creation of the rights templates 16 by this exemplary embodiment does not associate any rights with content. The system may also apply the rights templates 16 to the content 12 and the metadata 14 to generate rights specifications. The systems may

also create publishing profiles 18 that each may include information related to pre-existing agreements between publishers, distributors, registrars and the like.

[0024] Publishing actions 20 may include packaging the content 22, preparing the content for distribution 24, registering the content 26 and marketing the content 28 using a system in accordance with this exemplary embodiment of the invention. The system may package the content 22 along with other data such as metadata, additional content and the like. Packaging of the content 22 may also include translating the content to a deliverable format, signing and/or encrypting the content, in association with metadata, rights specification, and other distribution and consumption enabling information, such as cryptographic keys and the like. The system may also prepare the content for distribution 24 using, for example, the metadata, the rights templates and the publishing profiles. Preparing of the content for distribution 24 may also include shipping to a content repository, printing to paper, burning onto a CD, copying to a floppy disk and tapes and the like. The system may also register the content 26 by, for example, tracking various transactions by storing a transaction record along with an associated rights specification. Registration 26 may also include forwarding metadata to a registrar. Registration of the content may also include creating and managing records of published content, together with content and identification, metadata, rights specification and other marketing information. Additionally, the system may perform a marketing function 28 by, for example, sending a notice to distributors that includes metadata, a rights specification and the like. Marketing of the content may also include cataloging, distributing and presenting the content to potential consumers, and the like.

[0025] Examples of rights templates include a template that provides: 1) the right to view and print provided that a set fee has been paid; 2) rights to view, print and extract provided the user is an employee, resides in a particular geographic area and uses a device branded by a particular company; or 3) rights to view provided that a period of time has not been exceeded and a fee has been paid. Rights templates are not limited to any specific set of rights and conditions.

[0026] The system and method of the invention may also provide a user interface for creating, modifying and managing rights templates. Such an interface may: list and or enable selection of available rights; list and/or specify conditions, and associate them with selected rights; aid the user in creating a rights template, possibly through drag- and -drop of rights and conditions into a template icon; and aid the user in verifying the syntactic and symanctic correctness of templates.

[0027] A publishing profile may include a collection of distributors and facilitators through which certain types of content are distributed, archived, and registered. Publishing profiles may contain, for example, the following fields: publisher, content repositories, registrars, distributors, confirmation, and the like. The confirmation field may provide a determination on whether an on-line, an off-line confirmation or both should be obtained.

[0028] Post-publishing actions 30 may include an ordering function 32 such as a consumer placing an order for content having specific usage rights. The system may also enable a consumer to perform a consumption function 34 such as reading an e-book, listening to music, viewing artwork and the like. The system may also perform a disposition function 36 by, for example, archiving the content, destroying the content, copying the content and the like.

[0029] FIG. 2 is a block diagram illustrating one exemplary embodiment of a publishing system 100 in accordance with the invention. The publishing system 100 may include a client system 102 and a server system 104, and may selectively communicate with a plurality of distributor systems 106. The client system 102 may be accessed by a user who is a publisher, distributor, author or the like.

[0030] The client system may include a metadata database 108, a rights template database 110, a publishing profile database 112, a content collection 114, and an interface 116. A user may create, modify, edit and store metadata, rights templates and publishing profiles using the interface 116. The client system 102 is in communication with the server 104.

[0031] The server system 104 includes an interface 118, a server engine 120, a user database 122, a content repository 124, a rights specification database 126 and a transaction database 128. The user database 122 may include a user profile including data regarding each registered user of the server system 104 such as identification information, passwords and preferences for each registered user. The rights specification database 126 may include information regarding the rights specification that is associated with each content and corresponding metadata. The content repository 124 may act as a "sink" or storage location for the content after being packaged. The transaction database 128 may include data regarding each transaction or interaction with the publication system server. The transaction database 128 may also include information regarding the source and target of each distribution of content, the associated rights and conditions, billing data and any other information.

[0032] All collections, databases and repositories may be integral parts of a client, a server, or independent systems and each of them may be plural and have multiple occurrences. The content collection, metadata database, rights templates and publishing profiles may also be managed by the server system 104 or managed by one or several other servers.

[0033] As shown in FIG. 2, any of the client system 102, server system 104 and distributor systems 106 may be implemented using a programmed general purpose computer. However, the systems may also be implemented using special purpose computers, programmed microprocessors or micro controllers and any necessary peripheral integrated circuit elements, an ASIC or other integrated circuit, hardwired electronic logic circuits, discrete element circuits, programmable logic devices such as a PLD, PLA, FPGA or PAL, and the like. In general, any device capable of implementing the flow charts shown in FIGS. 3, 5-6 and 8 may be used to implement the client system 102, server system 104 and distributor systems 106. Additionally, the databases may be implemented using static or dynamic RAM. However, the databases may also be implemented using floppy disks and disk drives, writable optical disks and disk drives, hard drives, flash memory and the like. Additionally, it

should be appreciated that the databases can either be distinct portions of a single database or physically distinct databases or any collection of information.

[0034] Further, it should be appreciated that communication between the client system 102, server system 104 and distributor systems 106 may be accomplished by any communications channel such as wired or wireless links to networks. These networks may be local area networks, wide area networks, intranets, the Internet, or any other network.

[0035] The method and system of the invention may also include a user registration interface (not shown) that is adapted to enable a user to register with the publishing system. Such a user interface may assist in creating, modifying and managing user information. The user information may include: name, address, phone numbers, e-mail addresses, selected publisher, financial information and the like. Each field of information may be mandatory and/or optional. The registration interface may also generate additional information for each user. Such additional information may include a unique user ID, a password that is either system assigned or user selected, cryptographic keys, digital certificates and the like.

[0036] FIG. 3 shows a flow chart of a control routine that enables a user of a publishing system to publish content in accordance with an exemplary embodiment of the invention. The control routine starts at step S200 and continues to step S202. In step S202, the control routine enables the user to log in, loads a corresponding user profile and continues to step S204. In step S204, the control routine receives a selection of content and continues to step S206. The content may be selected in any conventional manner such as by dragging and dropping a content identifier, choosing the content from a list, browsing a file system or any other manner. In step S206, the control routine supplies the metadata for the selected content and continues to step S208. The metadata may be derived from the content, supplied from an existing database or created at least in part by the user. In step S208, the control routine enables the user to select a rights template or automatically selects a rights template based upon the user's profile and continues to step S210. In step S210, the control

routine enables the user to choose a publishing profile or the system may automatically select a publishing profile based upon the user's profile. The control routine then continues to step S212 where the control routine enables the user to place a request for the desired content to initiate the publication process and continues to step S214. In step S214, the control routine confirms the desired content, the metadata, the rights and the publishing profile with the user. If, in step S214, the control routine receives a rejecting confirmation ("NO") from the user, then the control routine returns to step S204. If, however, in step S214, the control routine receives an accepting confirmation ("YES") of the request from the user, then the control routine continues to step S216. In step S216, the control routine determines whether publishing of additional content is desired by the user. If, in step S216, the control routine determines that publishing of additional content is desired by the user, then the control routine returns to step S204. If, however, in step S216, the control routine determines that publishing of additional content is not desired by the user, then the control routine continues to step S220. In step S220, the control routine returns control of the system to the control routine which called the control routine of FIG. 3.

[0037] Steps S204, S206, S208 and S210 may be accomplished in any order. In an alternative embodiment, the flow chart of FIG. 3 may be significantly simplified by combining steps S204 through step S210 into one or more steps. Additionally, an alternative embodiment of the control routine may omit steps S206 through S216 by determining the metadata, rights template, and/or publishing profile based upon the user's profile. The control routine may also place the request without providing for confirmation and selection of additional content. Alternatively, the control routine may omit S206 through S212 and S216. In this embodiment, the control routine will provide a single content selection along with confirmation.

[0038] An exemplary embodiment of this invention may also provide an interface as shown in FIG. 4 for a user to publish content using a single or multiple action corresponding to the control routine of FIG. 3. As shown in FIG. 4, such an

exemplary interface 400 may be a graphical user interface (hereafter "GUI") screen that includes fields to enter or select a single document or collection of documents to be published 401, 402; fields to select pre-edited metadata 406 or to compose metadata 404; fields to select a pre-specified rights template 408 or to compose a rights template (not shown); fields to select a pre-defined publishing profile or to compose a publishing profile (not shown); a button to start and complete the publishing process 410; and a button to reset all of the fields to their default values 412. Additionally, the same user interface may enable modifying and managing existing publishing requests. Also, a similar interface (not shown) may be provided for a batch processing mode to publish multiple items of content.

[0039] An optional account manager (not shown) may also be provided within a publishing process GUI. Such an account manager may be used to set and update user registration information, metadata, a default rights template and a default publishing profile. The account manager may also be used to set up mechanisms for determining metadata, a rights template and a publishing profile to be used for publishing selected content.

[0040] FIG. 5 shows a flow chart of one exemplary embodiment of a control routine to process a publishing request in a "push" mode in accordance with the invention. The control routine processes a publishing request and "pushes" the content to distributors. The control routine starts at step S300 and continues to step S302. In step S302, the control routine gathers information such as user information, content, metadata, rights templates, publishing profiles and the like. The control routine may use defaults, inference rules, logic analysis on content and/or any other way to gather and/or create information. The control routine then continues to step S304, where the control routine disposes the content. For example, the control routine may digitally sign and/or encrypt the content for the purpose of protection, and transfer the content to a content repository or media. The control routine then continues to step S306, where the control routine generates and/or stores a rights specification in the rights specification database 126 shown in FIG. 2 and continues to step S308. In step S308, the control routine registers the transaction in, for example,

the transaction database 128 shown in FIG. 2 and continues to step S310. In step S310, the control routine notifies the distributors of the publication and continues to step S312. The notification may include, for example, a simple notice that includes a description of the content, metadata, content identifiers, publisher information, content repositories and a rights specification identifier. The distributors receive the notification and determine whether they are interested in the content based upon their business rules (discussed later). In step S312, the control routine collects the response from the distributors and continues to step S314. In step S314, the control routine determines whether a distributor is interested based upon the collected response. If, in step S314, the control routine determines that the distributor is interested, then the control routine continues to step S316. In step S316, the control routine delivers the metadata and corresponding rights specification to the distributor and continues to step S318. If, however, in step S314, the control routine determines that the distributor is not interested, based upon the collected response, then the control routine jumps to step S318. In step S318, the control routine composes a confirmation of the transaction and continues to step S320. In step S320, the control routine sends the confirmation to the user of the system and continues to step S322. In step S322, the control routine returns control of the system to the control routine that called the control routine of FIG. 5.

[0041] FIG. 6 shows a flow chart outlining one exemplary embodiment of a control routine that processes a publishing request in a "pull" mode in accordance with the invention. In other words, the control routine of FIG. 6 processes a publication request and allows distributors to "pull" the content from the system. The control routine starts at step S400 and continues to step S402. In step S402, the control routine gathers information regarding the available content and associated rights specification and continues to step S404. The gathered information may include user information, the content, metadata, a rights template, a publishing profile and the like. The information that is gathered may be determined based upon default information, inference rules, lexical analysis of the content and any other manner. In step S404, the control routine receives a request for content and continues to step

S406. In step S406, the control routine disposes of the requested content and continues to step S408. In step S408, the control routine generates and stores the corresponding rights specification and continues to step S410. In step S410, the control routine registers the transaction and continues to step S412. In step S412, the control routine composes a confirmation of the transaction and continues to step S414. In step S414, the control routine sends the confirmation to the user of the system that makes the publishing request and continues to step S416. In step S416, the control routine returns control of the system to the control routine that called the control routine of FIG. 6. FIG. 7 shows a block diagram of one exemplary embodiment of a distributor system 500 in accordance with the invention. The distributor system 500 includes an interface to the publishing system 502, a server engine 504, a consumer interface 506, a catalog database 508, a consumer database 510, a transaction database 512, and a business rules database 514. The catalog database 508 may include metadata and usage rights specifications for content that have been published for distribution by the distributor. A consumer may use the consumer interface 506 to view portions of the catalog database. The consumer database 510 may include information regarding each registered consumer such as identification information, password data, preferences regarding content type, usage rights and conditions and the like. The transaction database 512 may include data regarding transactions between the distributor and publisher and between the distributor and consumers. The transaction database may also include information on each transaction such as the date, the parties, the content, the usage rights, conditions and the like. The business rules database 514 includes rules used by the distributor to conduct its business. Such rules may include content type preferences, rights and conditions, preferences and the like.

[0042] The business rules determine how a response to a publisher's notification is generated. For example, a distributor may decide that they are interested only in a specific content topic such as security. The distributor may also only grant the right to view and to filter out other rights on content that costs less than \$50.00. The distributor may also decide to increase the fee for the rights by 10% of the publisher's

price or \$2.00, which ever is smaller. A distributor may also decide to restrict distribution from a particular publisher to users in a geographic area, such as North America. The business rules may also modify prices, for example, by setting a rental price of \$1.99 per day for renting less than 5 days, and \$1.49 per day for renting longer than 5 days. Business rules may be pre-defined and stored in the business rules database 514 on the distributor system 500.

[0043] FIG. 8 shows a flow chart outlining one exemplary embodiment of a control routine to create or edit a distributor catalog in accordance with the invention. The control routine starts at step S600 and continues to step S602. In step S602, the control routine obtains a publication notice from a publishing system, by either receiving or retrieving from the publishing system depending on the "push" or "pull" mode in which the system publishes the content, and continues to step S604. In step S604, the control routine selects and/or applies the appropriate business rules to the publication notice and continues to step S606. In step S606, the control routine determines whether the distributor is interested in the particular publication using the selected business rules. If, in step S606, the control routine determines that the distributor is not interested in the published content, then the control routine continues to step S608. In step S608, the control routine responds to the publishing system with an indication that the distributor is not interested in the content and continues to step S620. If, however, in step S606, the control routine determines that the distributor is interested in the published content, then the control routine continues to step S610. In step S610, the control routine responds to the publishing system with an indication that the distributor is interested in the content and continues to step S612. In step S612, the control routine receives the content from the publisher and continues to step S614. In step S614, the control routine receives the corresponding metadata and rights specification and continues to step S616. In step S616, the control routine may customize the metadata and right specifications by, for example, adding value to the price of the content and continues to step S618. In step S618, the control routine generates a catalog item for the distributor catalog and continues to step S620. In step

S620, the control routine returns control of the distributor system to the control routine that called the control routine of FIG. 8.

[0044] The flow chart of FIG. 8 may be invoked by the publishing system by a "push" or may be scheduled periodically by the distributor itself by a "pull." A distributor system, such as shown in FIG. 7, may also use the control routine outlined in FIG. 8 to periodically check a publishing system to see if new content is available. The business rules that are applied in step S604 may narrow rights and/or change conditions which result in customized rights to offer to consumers as described above. The control routine of FIG. 8 may also be modified to provide a batch mode to process multiple documents. Steps S612 and S616 are also optional. The content may be received later upon distribution.

[0045] Step S616 may modify the metadata as appropriate for the distributor and the rights specifications. In step S616, the control routine may also process the metadata in the rights specification based upon the business rules. Such customization may include granting only a view right to consumers and to filter out other rights, or to modify the sale price by some mark-up percentage. The exemplary control routine outlined in FIG. 8 may automatically enter a new item into the distributor's catalog according to processed and filtered information as received from publishers.

[0046] The system and method of the invention may also provide a business rules interface (not shown) that enables a user (e.g., a distributor) to edit the business rules. For example, the interface may provide the ability to generate business rules that identify content, modify metadata, select rights to offer, and change fees and other conditions.

[0047] The catalog item that is generated in step S618 may provide any number of identification data such as content identification, registrar identification, content metadata, content repositories, usage rights, cover page images, and the like. The interfaces shown in FIGS. 2 and 7, may each include a keyboard for entering alphanumeric input, a cursor control device for manipulating a cursor, a display for

displaying visual output and the like. The keyboard may be a standard QWERTY keyboard, but may also be a keypad or the like. The cursor control device, e.g. a mouse or trackball, will typically have a button or switch associated with it to which the performance of certain functions can be programmed.

[0048] The disclosed method and system may also be readily implemented in any combination of software and hardware. For example, object-oriented software development environments that provide portable source code that can be used on a variety of computer or workstation hardware platforms can be used to implement the invention. Alternatively, the disclosed system may be implemented partially or fully in hardware using logic circuits. The systems and methods described above, however, can be readily implemented in hardware and/or software using any known or later developed systems or structures, devices and/or software, by those skilled in the applicable art without undue experimentation from the functional description provided herein together with a general knowledge of the computer arts.

[0049] Moreover, the disclosed method and system may be readily implemented as software, executed on a programmable general purpose computer, a special purpose computer, a programmable controller and the like. In this instance, the methods and systems of the invention can be implemented as a control routine implemented on a personal computer such as a Java or CGI script as a resource residing on a server or as a routine embedded in a dedicated publishing system, a web browser, a publishing system enabled server phone, a PDA, a dedicated publishing system, and the like.

[0050] It is to be understood that the systems and methods of the invention are not limited to publishing digital content. Rather, it is to be understood that the publishing system of the invention may be used to automate at least some portion of a publishing process for any type of content and for any type of publisher. For example, the invention may be used by a conventional content publisher such as a publisher who specializes in books, e-books, music, art work and the like. The invention may also be used by any organization to manage documents such as, for example, an art

museum that needs to control publication of art work regardless of whether the art work is a painting, music, sculpture or the like. In general, any type of organization may use the invention for publishing any type of content.

[0051] An embodiment of the present invention may include GUI interfaces for distributors as shown, for example, in FIGS. 9-12. FIG. 9 shows an exemplary GUI 900 for a distributor system for updating the distributor's catalog or "store front." A user may select a date from which the publishing system server is queried to determine if any new content needs to be added to the catalog using a date field 902.

[0052] FIG. 10 shows an exemplary GUI 1000 for a distributor system that allows a user to review a content notice and to approve or delete the content for the catalog. GUI 1000 includes fields 1002 for updating the metadata associated with the content, price and cost fields 1004, an update product listing button 1006 and a delete product listing button 1008.

[0053] FIG. 11 shows an exemplary embodiment of a GUI 1100 for a catalog listing 1102 of a specific content. The GUI of FIG. 11 allows a user to interact with the distributor system to receive access to content. The GUI 1100 includes a description of the content 1102 and a button 1104 that allows the consumer to purchase the content.

[0054] FIG. 12 is an exemplary GUI 1200 for a distributor system that includes content list 1202 from the distributor's catalog and provides links 1204 with which a user may select content for editing.

[0055] It is, therefore, apparent that there has been provided, in accordance with the invention, systems and methods for publishing content. While this invention has been described in conjunction with the embodiments thereof, it is evident that many alternatives, modifications and variations are apparent to those skilled in the applicable arts. Accordingly, Applicants intend to embrace all such alternatives, modifications and variations that following within the spirit and scope of this invention.

WHAT IS CLAIMED IS:

1. A method for publishing content, the method comprising:

receiving a selection of content from a user;

receiving a request to publish the selected content from the user; and

supplying metadata and a rights specification to a distributor in response to the request from the user to publish the content.
2. The method of claim 1, wherein the metadata includes data describing and identifying the content.
3. The method of claim 2, wherein the metadata includes at least one of a content identifier, a title, an author's name, a publisher's name, a publication date, an image and a description of the content.
4. The method of claim 3, wherein the content identifier is at least one of an International Standard Book Number (ISBN), a Digital Object Identifier (DOI), a Uniform Resource Identifier (URI), and a Library of Congress Control Number (LCCN).
5. The method of claim 1, wherein the rights specification includes at least one of the rights to print, view, play, extract, and export.
6. The method of claim 1, further comprising generating the metadata.
7. The method of claim 6, wherein the step of generating the metadata comprises receiving information from the user.
8. The method of claim 6, wherein the step of generating the metadata is based upon a user profile.
9. The method of claim 6, wherein the step of generating the metadata is based upon default metadata.

10. The method of claim 6, wherein the step of generating the metadata is based upon at least one inference rule.
11. The method of claim 6, wherein the step of generating the metadata is based upon an analysis of the selected content.
12. The method of claim 1, further comprising creating the rights specification.
13. The method of claim 12, wherein the rights specification is created based upon a rights template.
14. The method of claim 13, wherein the rights template includes at least one usage right and a condition upon which the usage right is contingent.
15. The method of claim 12, wherein the rights specification is created based upon a user profile.
16. The method of claim 12, wherein the rights specification is created based upon a default rights specification.
17. The method of claim 12, wherein the rights specification is created based upon inference rules.
18. The method of claim 12, wherein the step of creating the rights specification is based upon an analysis of the selected content.
19. The method of claim 1, further comprising creating a publishing profile.
20. The method of claim 19, wherein the publishing profile includes at least one publisher identifier and information relating to a pre-existing agreement between at least one of a publisher, a distributor and a registrar.
21. The method of claim 19, wherein the publishing profile includes information regarding at least one of a distributor and facilitator through which a certain type of content may be at least one of distributed, archived and registered.

22. The method of claim 19, wherein the publishing profile is created based upon a user profile.
23. The method of claim 19 wherein the publishing profile is created based upon a default publishing profile.
24. The method of claim 19, wherein the publishing profile is created based upon at least one inference rule.
25. The method of claim 19, wherein the publishing profile is created based upon an analysis of the selected content.
26. The method of claim 1, further comprising confirming the request to publish.
27. The method of claim 1, wherein the user is a publisher.
28. The method of claim 27, wherein the step of supplying comprises sending a publication notice to at least one distributor.
29. The method of claim 28, wherein the step of supplying further comprises receiving a response from the at least one distributor.
30. The method of claim 29, further comprising packaging the content for the distributor if the response from the at least one distributor indicates that the distributor wants to distribute the content.
31. The method of claim 1, wherein the user is the distributor.
32. The method of claim 1, wherein the user is a content creator.
33. The method of claim 1, further comprising packaging the content.
34. The method of claim 33, wherein the step of packaging comprises sending the content to a distributor.

35. The method of claim 33, wherein the step of packaging comprises storing the content to at least one of a storage and a distribution media.
36. The method of claim 33, wherein the step of packaging comprises encrypting the content.
37. The method of claim 33, wherein the step of packaging comprises sending the content to a content repository.
38. The method of claim 1, further comprising registering the content.
39. The method of claim 38, wherein the step of registering comprises forwarding at least one of metadata, a record of published content, a content identifier, the rights specification and marketing information to a registrar.
40. The method of claim 1, further comprising registering the transaction of supplying.
41. The method of claim 40, wherein the step of registering the transaction comprises storing transaction information in a transaction database.
42. The method of claim 1, wherein the step of supplying comprises:
preparing a notice that includes the metadata and rights specification; and
sending the notice to the distributor.
43. The method of claim 1, further comprising using at least one distributor business rule to determine whether the distributor wants to distribute the selected content and wherein the supplying is based upon the determination.
44. The method of claim 1, further comprising receiving a response from the distributor and wherein the supplying is based upon the response.
45. The method of claim 1, further comprising updating a distributor catalog based upon the metadata and rights specification.

46. The method of claim 1, further comprising modifying one of the metadata and rights specification based upon a distributor business rule.
47. A system for publishing content, the system comprising:
- a content database storing at least one content; and
- a processor in communication with the content database and responsive to a request to publish the content via a user interface to supply metadata and a rights specification regarding the content to at least one distributor.
48. The system of claim 47, further comprising a metadata database storing the metadata.
49. The system of claim 47, wherein the metadata includes data describing and identifying the content.
50. The system of claim 49, wherein the metadata includes at least one of a content identifier, a title, an author's name, a publisher's name, a publication date, an image and a description of the content.
51. The system of claim 50, wherein the content identifier is at least one of an International Standard Book Number (ISBN), a Digital Object Identifier (DOI), a Uniform Resource Identifier (URI), and a Library of Congress Control Number (LCCN).
52. The system of claim 47, wherein the processor is further responsive to the request to generate the metadata based upon default metadata.
53. The system of claim 47, wherein the processor is further responsive to the request to generate the metadata based upon inference rules.
54. The system of claim 47, wherein the processor is further responsive to the request to generate the metadata based upon an analysis of the content.

55. The system of claim 47, further comprising a user database storing at least one user profile.
56. The system of claim 55, wherein the processor is further responsive to the request to generate the metadata based upon the at least one user profile.
57. The system of claim 47, wherein the rights specification includes at least one of the rights to print, view, play, extract and export.
58. The system of claim 47, wherein the processor is further responsive to the request to generate the rights specification.
59. The system of claim 58, wherein the processor generates the rights specification based upon a default rights specification.
60. The system of claim 58, wherein the processor generates the rights specification based upon a user input.
61. The system of claim 58, wherein the processor generates the rights specification based upon inference rules.
62. The system of claim 58, wherein the processor generates the rights specification by analyzing the content.
63. The system of claim 58, further comprising a rights template database storing at least one rights template.
64. The system of claim 63, wherein the at least one rights template includes at least one usage right and a condition upon which the usage right is contingent.
65. The system of claim 63, wherein the processor generates the rights specification based upon the at least one rights template.
66. The system of claim 47, further comprising a user database storing at least one user profile.

67. The system of claim 66, wherein the processor is further responsive to the request to generate the rights specification based upon the at least one user profile.
68. The system of claim 47, further comprising a publishing profile database storing at least one publishing profile.
69. The system of claim 68, wherein the publishing profile includes at least one publisher identifier and information relating to a pre-existing agreement between at least one of a publisher, a distributor and a registrar.
70. The system of claim 68, wherein the publishing profile includes information regarding at least one of a distributor and facilitator through which a certain type of content may be at least one of distributed, archived and registered.
71. The system of claim 68, further comprising a user database storing at least one user profile, and wherein the processor is responsive to the request to select the at least one publishing profile based upon the at least one user profile.
72. The system of claim 68, wherein the processor is further responsive to the request to generate the rights specification based upon the at least one publishing profile.
73. The system of claim 68, wherein the processor is further responsive to the request to generate the metadata based upon the at least one publishing profile.
74. The system of claim 47, further comprising a publishing profile database and wherein the processor is responsive to the request to generate a publishing profile based upon a default publishing profile and to store the generated publishing profile in the publishing profile database.
75. The system of claim 47, further comprising a publishing profile database and wherein the processor is responsive to the request to generate a publishing profile based upon at least one inference rule and to store the generated publishing profile in the publishing profile database.

76. The system of claim 47, further comprising a publishing profile database and wherein the processor is responsive to the request to generate a publishing profile based upon an analysis of the content and to store the generated publishing profile in the publishing profile database.

77. The system of claim 47, further comprising a transaction database and wherein the processor is further responsive to the request to store transaction data in the transaction database.

78. The system of claim 47, wherein the processor is further responsive to user input to create the content.

79. The system of claim 78, wherein the processor is further responsive to store the content in the content database.

80. The system of claim 78, wherein the processor is further responsive to store the content in a distribution media.

81. The system of claim 47, further comprising a content repository and wherein the processor is further responsive to the request to supply the content to the content repository.

82. The system of claim 47, further comprising a rights specification database and wherein the processor supplies the rights specification to the rights specification database for storage.

83. The system of claim 47, wherein the processor is further responsive to the request to supply a confirmation request and to receive a confirmation before supplying the metadata and rights specification.

84. The system of claim 47, wherein the processor is further responsive to the request to supply a publication notice to the distributor.

85. The system of claim 84, wherein the publication notice includes the metadata and rights specification.

86. The system of claim 47, wherein the processor is further responsive to the request to package the content.
87. The system of claim 86, wherein the processor supplies the package to the distributor.
88. The system of claim 47, wherein the processor is further responsive to the request to encrypt the content.
89. The system of claim 47, wherein the processor is further responsive to the request to register the content.
90. The system of claim 89, wherein the registration comprises forwarding at least one of metadata, a record of published content, a content identifier, the rights specification and marketing information to a registrar.
91. The system of claim 47, further comprising:
- a distributor system in selective communication with the publishing system, wherein the distributor system comprises:
 - a catalog database for storing metadata and rights specifications associated with at least one content;
 - an interface for selective communication with a publishing system; and
 - a distributor processor in communication with the interface and the catalog database, wherein the processor is responsive to the supplied metadata and rights specification to determine whether to store the supplied metadata and rights specification in the catalog database.
92. The system of claim 91, wherein the distributor processor is further responsive to the supplied metadata and rights specification to modify at least one of the metadata and rights specification based upon a business rule.
93. A content distributor system comprising:

a catalog database for storing metadata and rights specifications associated with at least one content;

an interface for selective communication with a publishing system; and

a processor in communication with the interface and the catalog database, wherein the processor is responsive to a metadata and a rights specification from the publishing system to determine whether to store the supplied metadata and rights specification in the catalog database.

94. The system of claim 93, further comprising a business rules database storing at least one business rule, wherein the processor determines whether to store the metadata and rights specification based upon the at least one business rule.

95. The system of claim 93, wherein the processor is responsive to a positive determination to store the metadata and rights specification in the catalog database.

96. The system of claim 95, wherein the processor is further responsive to a positive determination to modify the metadata and rights specification based upon the at least one business rule.

97. The system of claim 93, further comprising:

a consumer interface in communication with the processor; and

a consumer database in communication with the processor, wherein the consumer database stores at least one consumer profile.

98. The system of claim 93, further comprising a transaction database in communication with the processor, wherein the processor is responsive to the metadata and rights specification from the publishing system to store at least one transaction record in the transaction database.

99. An information storage media comprising information that publishes content, the information comprising:

information that receives a selection of content from a user;

information that receives a request to publish the selected content from the user; and

information that supplies metadata and a rights specification to a distributor in response to the request from the user to publish the content.

100. The media of claim 99, wherein the metadata includes data describing and identifying the content.

101. The media of claim 100, wherein the metadata includes at least one of a content identifier, a title, an author's name, a publisher's name, a publication date, an image and a description of the content.

102. The media of claim 101, wherein the content identifier is at least one of an International Standard Book Number (ISBN), a Digital Object Identifier (DOI), a Uniform Resource Identifier (URI) and a Library of Congress Control Number (LCN).

103. The media of claim 99, wherein the rights specification includes at least one of the rights to print, view, play, extract and export.

104. The media of claim 99, further comprising information that generates the metadata.

105. The media of claim 104, wherein the information generates the metadata based upon information received from a user.

106. The media of claim 104, wherein the information generates the metadata based upon a user profile.

107. The media of claim 104, wherein the information generates the metadata based upon default metadata.

108. The media of claim 104, wherein the information generates the metadata based upon at least one inference rule.

109. The media of claim 104, further comprising: information that analyzes the selected content, and wherein the information generates the metadata based upon the results of the analysis.

110. The media of claim 99, further comprising information that creates the rights specification. .

111. The media of claim 110, wherein the information that creates the rights specification comprises information that creates the rights specification based upon a rights template.

112. The method of claim 111, wherein the rights template includes at least one usage right and a condition upon which the usage right is contingent.

113. The media of claim 110, wherein the information that creates the rights specification comprises information that creates the rights specification based upon a user profile.

114. The media of claim 110, wherein the information that creates the rights specification comprises information that creates the rights specification based upon a default rights specification.

115. The media of claim 110, wherein the information that creates the rights specification comprises information that creates the rights specification based upon inference rules.

116. The media of claim 99, further comprising:

information that analyzes the selected content; and

information that creates the rights specification based upon the analysis.

117. The media of claim 99, further comprising information that creates a publishing profile.

118. The media of claim 117, wherein the publishing profile includes at least one publisher identifier and information relating to a pre-existing agreement between at least one of a publisher, a distributor and a registrar.

119. The media of claim 117, wherein the publishing profile includes information regarding at least one of a distributor and facilitator through which a certain type of content may be at least one of distributed, archived and registered.

120. The media of claim 99, further comprising information that creates a publishing profile .

121. The media of claim 120, wherein the information that creates the publishing profile comprises information that creates the publishing profile based upon a user profile.

122. The media of claim 120, wherein the information that creates the publishing profile comprises information that creates a publishing profile based upon a default publishing profile.

123. The media of claim 120, wherein the information that creates the publishing profile comprises information that creates a publishing profile based upon at least one inference rule.

124. The media of claim 99, further comprising:

information that analyzes the selected content; and

information that creates a publishing profile based upon the results of the analysis.

125. The media of claim 99, further comprising information that confirms the request to publish.

126. The media of claim 99 wherein the information that supplies comprises information that sends a publication notice to at least one distributor.
127. The media of claim 126, further comprising information that receives a response to the notice from the at least one distributor.
128. The media of claim 127, further comprising information that packages the content for the distributor if the response from the at least one distributor indicates that the distributor wants to distribute the content.
129. The media of claim 99, further comprising information that packages the content.
130. The media of claim 129, wherein the information that packages the content comprises information that sends the content to a distributor.
131. The media of claim 129, wherein the information that packages the content comprises information that stores the content in at least one of a storage and a distribution media.
132. The media of claim 129, wherein the information that packages the content comprises information that encrypts the content to a distributor.
133. The media of claim 129, wherein the information that packages the content comprises information that sends the content to a content repository.
134. The media of claim 99, further comprising information that registers the content.
135. The media of claim 134, wherein the information that registers the content comprises information that forwards at least one of metadata, a record of published content, a content identifier, the rights specification and marketing information to a registrar.

136. The media of claim 99, further comprising information that registers the transaction of supplying.

137. The media of claim 134, wherein the information that registers the transaction comprises information that stores the transaction information in a transaction database.

138. The media of claim 99, wherein the information that supplies comprises:

information that prepares a notice that includes the metadata and rights specification; and

information that sends the notice to the distributor.

139. The media of claim 99, further comprising information that uses at least one distributor business rule to determine whether the distributor wants to distribute the selected content and wherein the information that supplies comprises information that bases the supplying upon the determination.

140. The media of claim 99, further comprising information that receives a response from the distributor and wherein the information that supplies comprises information that bases the supply upon the response.

141. The media of claim 99, further comprising information that updates a distributor catalog based upon the metadata and rights specification.

142. The media of claim 99, further comprising information that modifies one of the metadata and rights specification based upon a distributor business rule.

FIG. 1

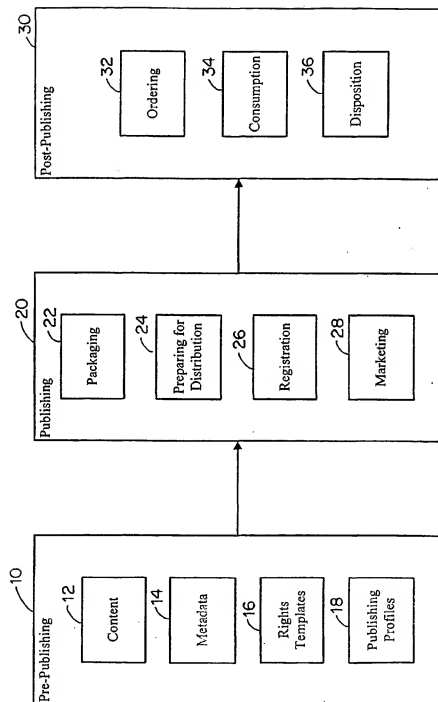


FIG. 2

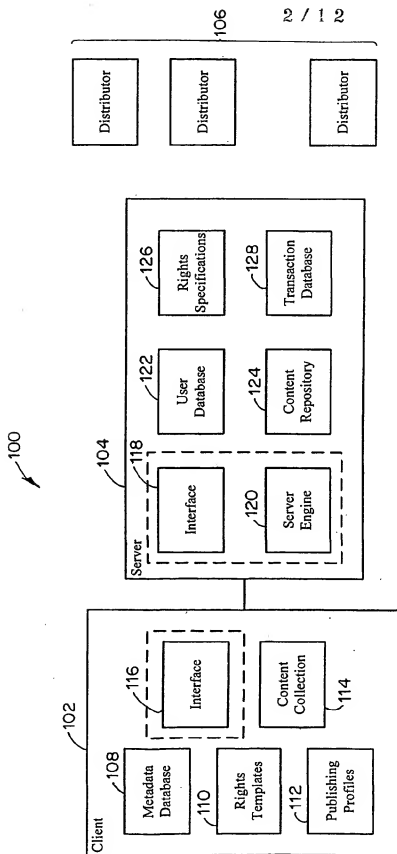


FIG. 3

3 / 1 2

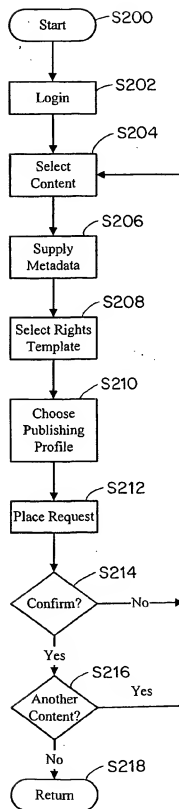


FIG. 4

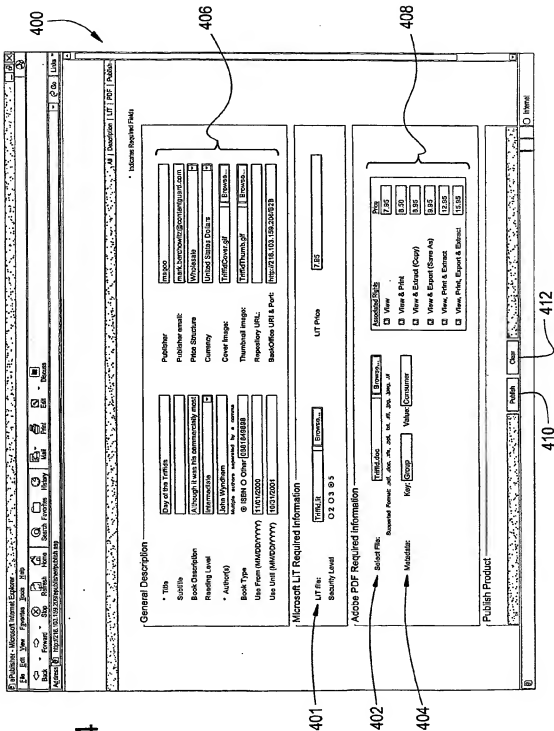


FIG. 5

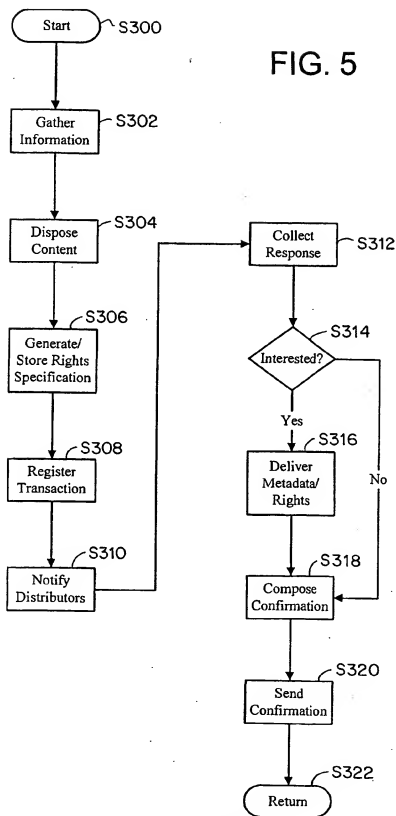


FIG. 6 6 / 1 2

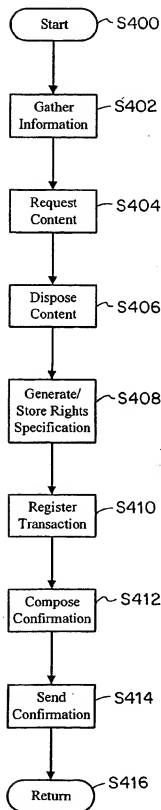


FIG. 7

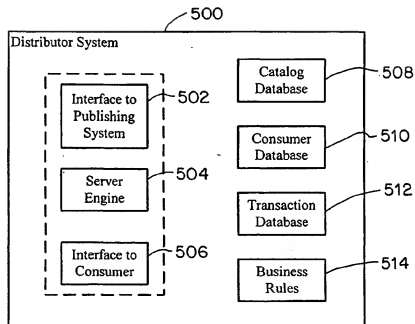
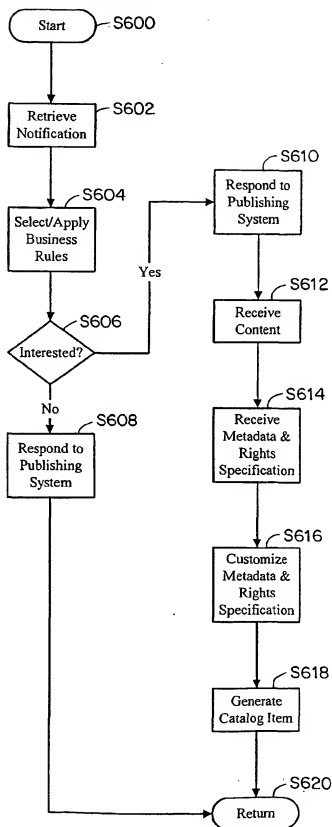


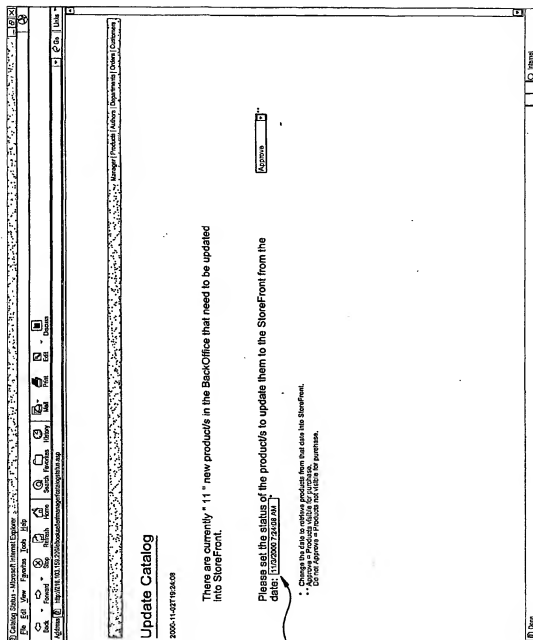
FIG. 8

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FIG. 9

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FIG. 10

File Edit View Format Tools Help

Open Recent Print Copy Paste Undo Redo Find Help

Address: http://www.example.com/1000.html

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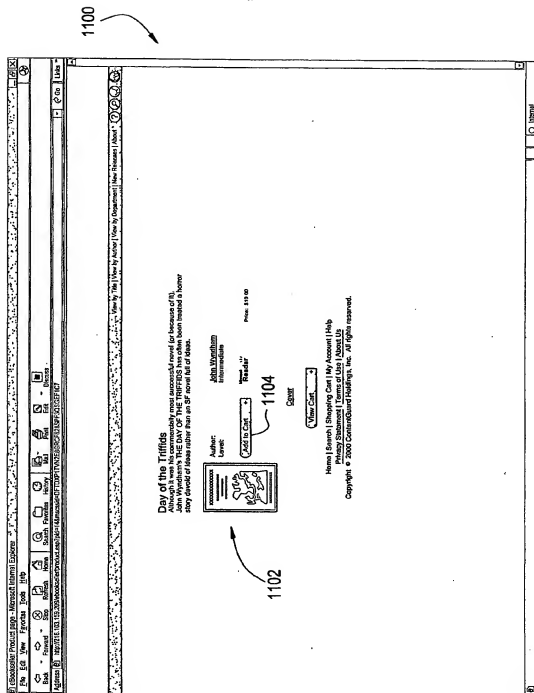


FIG. 11

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[illegible]

FIG. 12

INTERNATIONAL SEARCH REPORT

Inional application No.
PCT/US01/39185

A. CLASSIFICATION OF SUBJECT MATTER

IPC(y) : G06F 17/60

US CL : 705/26

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 705/26, 1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A,P	US 6,263,313 B1 (MILSTED et al) 17 July 2001, abstract, summary	1-142
A	US 5,884,280 A (YOSHIOKA et al) 16 March 1999, abstract, summary	1-142
A	US 5,848,413 A (WOLFF) 08 December 1998, abstract, summary	1-142

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* "A"	Special categories of cited documents: document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"B"	earlier document published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L"	document which may throw doubt on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O"	document referring to an oral disclosure, use, exhibition or other means	"Z" document member of the same patent family
"P"	document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

19 NOVEMBER 2001

Date of mailing of the international search report

17 DEC 2001

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